



09/914884
18 December 2001

PATENT COOPERATION TREATY

Int'l Application No. : PCT/CA00/00217
Int'l Filing Date : March 3, 2000
U.S. Application No. : 09/914,884
Inventors : Gregory N. Beatch et al.
Title : AMINOCYCLOALKYL CINNAMIDE COMPOUNDS
FOR ARRHYTHMIA AND AS ANALGESICS AND
ANESTHETICS
Docket No. : 480102.409USPC
Date : November 8, 2001

Commissioner for Patents
Washington, DC 20231-0001

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents:

In accordance with 37 C.F.R. §§ 1.56 and 1.97 through 1.98, applicants wish to make known to the Patent and Trademark Office the references set forth on the attached form PTO-1449 (copies of the cited references are enclosed).

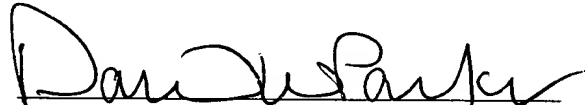
These documents were cited in a Search Report for corresponding application PCT/CA00/00217, a copy of which is enclosed. As to any reference supplied, applicants do not admit that it is "prior art" under 35 U.S.C. §§ 102 or 103, and specifically reserves the right to traverse or antedate any such reference, as by a showing under 37 C.F.R. § 1.131 or other method. Although the aforesaid references are made known to the Patent and Trademark Office in compliance with applicant's duty to disclose all information they are aware of which is believed relevant to the

examination of the above-identified application, applicants believe that their invention is patentable.

Please acknowledge receipt of this Information Disclosure Statement and kindly make the cited references of record in the above-identified application.

Respectfully submitted,

Seed Intellectual Property Law Group PLLC

A handwritten signature in black ink, appearing to read "David W. Parker", written over a horizontal line.

David W. Parker, Ph.D.

Registration No. 37,414

Enclosures:

Form PTO/SB/21

Form PTO-1449

10 Cited References

Copy of Search Report for PCT/CA00/00217

701 Fifth Avenue, Suite 6300
Seattle, Washington 98104-7092
(206) 622-4900; Fax: (206) 682-6031

(DWP:jh) D:\NrPortbl\iManage\JENH\230689_1.DOC

FORM PTO-1449
(REV. 7-90)U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICEATTY. DOCKET NO.
480102.409USPCAPPLICATION NO.
09/914,884

INFORMATION DISCLOSURE STATEMENT

(Use several sheets if necessary)

APPLICANTS

Beatch, Gregory, N. et al.

INTERNATIONAL FILING DATE
March 4, 1999

GROUP ART UNIT

U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	AA	4,179,501	12/18/79	Szmuszkovicz	424	226	
	AB	4,598,087	07/01/86	Horwell	514	429	
	AC	4,656,182	04/07/87	Horwell	514	324	
	AD	4,663,343	05/05/87	Horwell et al.	514	429	
	AE	5,051,428	09/24/91	Horwell et al.	514	320	
	AF	5,506,257	04/09/96	MacLeod et al.	514	422	
	AG						
	AH						

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	TRANSLATION	
					YES	NO
	AI	EP 0380063 B1	08/01/90	EPO		
	AJ	EP 0222533 A1	05/20/87	EPO		
	AK	WO 93/19056	09/30/93	WIPO		
	AL					
	AM					

OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)

	AN	Stefan E. Boiadjev et al., "pH-Sensitive Exciton Chirality Chromophor. Solvatochromic Effects On Circular Dichroism Spectra," <i>Tetrahedron: Asymmetry</i> , 7(10): 2825-2832, October 1, 1996.
	AO	Brian R. de Costa et al., "Synthesis and Evaluation of N-Substituted cis-N-Methyl-2-(1-pyrrolidiny) cyclohexylamines as High Affinity σ Receptor Ligands. Identification of a New Class of Highly Potent and Selective σ Receptor Probes," <i>J. Mem. Chem.</i> , 33(11): 3100-3110, 1990.
	AP	

EXAMINER

DATE CONSIDERED

* EXAMINER: Initial if reference considered, whether or not criteria is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant(s).

INTERNATIONAL SEARCH REPORT

International Application No
PCT/CA 00/00217

A. CLASSIFICATION OF SUBJECT MATTER IPC 7 C07D207/09 A61K31/40 C07D295/12 A61K31/535 A61P9/06 A61P23/00 A61P25/00		
According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) IPC 7 C07D A61K		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the international search (name of data base and, where practical, search terms used)		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	BOIADJIEV S E ET AL: "pH-sensitive exciton chirality chromophore. Solvatochromic effects on circular dichroism spectra" TETRAHEDRON: ASYMMETRY, NL, ELSEVIER SCIENCE PUBLISHERS, AMSTERDAM, vol. 7, no. 10, 1 October 1996 (1996-10-01), pages 2825-2832, XP004048370 ISSN: 0957-4166	1,2
A	US 5 506 257 A (MACLEOD BERNARD A ET AL) 9 April 1996 (1996-04-09) claim 1	1-89
A	WO 93 19056 A (UNIV BRITISH COLUMBIA) 30 September 1993 (1993-09-30)	1-89
-/-		
<input checked="" type="checkbox"/> Further documents are listed in the continuation of box C. <input checked="" type="checkbox"/> Patent family members are listed in annex.		
* Special categories of cited documents : <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>*A* document defining the general state of the art which is not considered to be of particular relevance</p> <p>*E* earlier document but published on or after the international filing date</p> <p>*L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</p> <p>*O* document referring to an oral disclosure, use, exhibition or other means</p> <p>*P* document published prior to the international filing date but later than the priority date claimed</p> </div> <div style="width: 45%;"> <p>*T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</p> <p>*X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</p> <p>*Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.</p> <p>*Z* document member of the same patent family</p> </div> </div>		
Date of the actual completion of the international search <div style="text-align: center; font-weight: bold;">19 June 2000</div>		Date of mailing of the international search report <div style="text-align: center; font-weight: bold;">10. 07. 00</div>
Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016		Authorized officer <div style="text-align: center; font-weight: bold;">Gettins, M</div>

INTERNATIONAL SEARCH REPORT

International Application No

PCT/CA 00/00217

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5 051 428 A (HORWELL DAVID C ET AL) 24 September 1991 (1991-09-24) claim 1 ---	1-89
A	EP 0 380 063 A (WARNER LAMBERT CO) 1 August 1990 (1990-08-01) claim 1 ---	1-89
A	DE COSTA ET AL: "Synthesis and evaluation of N-substituted cis-N-methyl-2-(1-pyrrolidiny) cyclohexyl amines as high affinity sigma receptor ligands." J.MED.CHEM., vol. 33, no. 11, 1990, pages 3100-3110, XP000910297 example 42; table III ---	1,2
A	EP 0 222 533 A (UPJOHN CO) 20 May 1987 (1987-05-20) claim 1 ---	1,2
A	US 4 663 343 A (HORWELL DAVID C ET AL) 5 May 1987 (1987-05-05) claims 1,2 ---	1-89
A	US 4 656 182 A (HORWELL DAVID) 7 April 1987 (1987-04-07) claim 1 ---	1-89
A	US 4 598 087 A (HORWELL DAVID C) 1 July 1986 (1986-07-01) claim 1 ---	1-89
A	US 4 179 501 A (SZMUSZKOVICZ JACOB) 18 December 1979 (1979-12-18) claim 1 -----	1-89

INTERNATIONAL SEARCH REPORT

International application No.
PCT/CA 00/00217

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
see FURTHER INFORMATION sheet PCT/ISA/210
2. ☒ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
see FURTHER INFORMATION sheet PCT/ISA/210
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

International Application No. PCT/CA 00/00217

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.1

Although claims

11,13,15,17,19,21,23,25,27,29,31,33,35,37,39,41,43,45,47,49,51,53,55,57, 59,61,63,65,67,69,71,73,75,77,79,81,83,85 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.

Continuation of Box I.2

Present claims 1 and 3-89 relate to an extremely large number of possible compounds/methods. Support within the meaning of Article 6 PCT and/or disclosure within the meaning of Article 5 PCT is to be found, however, for only a very small proportion of the compounds/methods claimed. In the present case, the claims so lack support, and the application so lacks disclosure, that a meaningful search over the whole of the claimed scope is impossible. Consequently, the search has been carried out for those parts of the claims which appear to be supported and disclosed, namely those parts relating to the compounds/methods where X is a direct bond (as is found in all of the exemplified compounds)

One reason for the limitation is due to the ambiguity as to what is really claimed. It is noted, from the description, but not the claims, that aryl is not meant to have the standard meaning given to it by IUPAC. Not only are non standard meanings (e.g. heteroaromatic) intended, but also the term "optionally substituted" with no limitation as to the type and amount of substitution. The term "optionally substituted" is not allowed for the reasons given in the first 2 sentences of this paragraph. It is further noted that there are no examples of "aryl" being other than phenyl. On page 13, line 22 naphthyl is also referred to which falls within the classic definition of aryl. Accordingly aryl has been understood to only refer to phenyl and naphthyl.

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.

INTERNATIONAL SEARCH REPORT

Information on patent family members

I. International Application No
PCT/CA 00/00217

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5506257 A	09-04-1996	AT 154934 T AU 3882793 A CA 2132841 A WO 9319056 A DE 69311896 D DE 69311896 T EP 0632806 A ES 2104142 T HK 1000684 A JP 7505151 T	15-07-1997 21-10-1993 30-09-1993 30-09-1993 07-08-1997 16-10-1997 11-01-1995 01-10-1997 17-04-1998 08-06-1995
WO 9319056 A	30-09-1993	AT 154934 T AU 3882793 A CA 2132841 A DE 69311896 D DE 69311896 T EP 0632806 A ES 2104142 T HK 1000684 A JP 7505151 T US 5506257 A	15-07-1997 21-10-1993 30-09-1993 07-08-1997 16-10-1997 11-01-1995 01-10-1997 17-04-1998 08-06-1995 09-04-1996
US 5051428 A	24-09-1991	AU 626949 B AU 4586189 A CA 2004575 A DK 611889 A EP 0372466 A JP 2200659 A ZA 8909289 A	13-08-1992 14-06-1990 06-06-1990 07-06-1990 13-06-1990 08-08-1990 28-08-1991
EP 0380063 A	01-08-1990	US 4906655 A AT 91684 T AU 630411 B AU 4869990 A CA 2008391 A,C DE 69002248 D DE 69002248 T DK 380063 T ES 2058614 T JP 2233669 A JP 2902701 B US 5019588 A ZA 9000479 A	06-03-1990 15-08-1993 29-10-1992 02-08-1990 24-07-1990 26-08-1993 25-11-1993 30-08-1993 01-11-1994 17-09-1990 07-06-1999 28-05-1991 25-09-1991
EP 0222533 A	20-05-1987	AT 49502 T DE 3668268 D EP 0248824 A GR 3000408 T JP 63501152 T US 4801604 A WO 8702584 A	15-02-1990 22-02-1990 16-12-1987 28-06-1991 28-04-1988 31-01-1989 07-05-1987
US 4663343 A	05-05-1987	NONE	
US 4656182 A	07-04-1987	AT 50993 T AU 565236 B AU 3608084 A CA 1234808 A	15-03-1990 10-09-1987 13-06-1985 05-04-1988

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No
PCT/CA 00/00217

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 4656182 A		DE 3481614 D	19-04-1990
		DK 576184 A	07-06-1985
		EP 0147085 A	03-07-1985
		ES 538243 D	01-12-1985
		ES 8602599 A	16-03-1986
		FI 844751 A,B,	07-06-1985
		GR 81174 A	05-04-1985
		HU 36777 A	28-10-1985
		IE 57673 B	24-02-1993
		IL 73632 A	31-01-1988
		KR 8802532 B	28-11-1988
		NO 844853 A,B,	07-06-1985
		NZ 210440 A	06-01-1989
		OA 7885 A	20-11-1986
		PH 21740 A	10-02-1988
		US 4738981 A	19-04-1988
		JP 60166662 A	29-08-1985
		PT 79629 A,B	01-01-1985
		ZA 8409227 A	30-07-1986
US 4598087 A	01-07-1986	AT 32335 T	15-02-1988
		AU 565237 B	10-09-1987
		AU 3630684 A	13-06-1985
		CA 1235122 A	12-04-1988
		DE 3469168 D	10-03-1988
		DK 566784 A	07-06-1985
		EP 0146297 A	26-06-1985
		ES 538244 D	01-01-1986
		ES 8607914 A	16-11-1986
		FI 844752 A	07-06-1985
		GR 81172 A	04-04-1985
		HU 36106 A,B	28-08-1985
		IL 73660 A	31-12-1987
		NO 844854 A	07-06-1985
		NZ 210441 A	27-01-1989
		OA 7884 A	20-11-1986
		PH 20657 A	16-03-1987
		PT 79628 A,B	01-01-1985
		US 4677122 A	30-06-1987
		AR 240798 A	28-02-1991
US 4179501 A	18-12-1979	JP 60166647 A	29-08-1985
		ZA 8409294 A	30-07-1986
		US 4098904 A	04-07-1978
		AU 515054 B	12-03-1981
		AU 2984077 A	26-04-1979
		BE 860727 A	10-05-1978
		CA 1072558 A	26-02-1980
		CH 643817 A	29-06-1984
		DE 2749984 A	18-05-1978
		ES 463877 A	16-12-1978
		FR 2370722 A	09-06-1978
		GB 1588460 A	23-04-1981
		JP 1380696 C	28-05-1987
		JP 53063352 A	06-06-1978
		JP 61048494 B	24-10-1986
		NL 7711934 A	17-05-1978
		US 4215114 A	29-07-1980

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/CA 00/00217

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 4179501 A		US 4192885 A	11-03-1980
		US 4152459 A	01-05-1979
		US 4197308 A	08-04-1980
		US 4148914 A	10-04-1979
		US 4153717 A	08-05-1979
		ZA 7706240 A	26-07-1978
<hr/>			